

87-268

DOCKET FILE COPY ORIGINAL

ADVISORY COMMITTEE ON
ADVANCED TELEVISION SERVICE

MH Docket 87-268

RECEIVED

MAR - 5 1993

Minutes of the Seventh Meeting

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

1. The seventh meeting of the Advisory Committee on Advanced Television Service convened at 2:10 p.m. on March 24, 1992, at the Federal Communications Commission, 1919 M Street, N.W., Washington, D.C. 20554, and adjourned at 3:15 p.m.

2. The following Committee members were present:

Richard E. Wiley, Chair
Joseph A. Flaherty, Chair, Planning Subcommittee
Irwin Dorros, Chair, Systems Subcommittee
Ray Benedict (Westinghouse Broadcasting), representing Burton Staniar
J. Peter Bingham (Philips Consumer Electronics Co.), representing Donald Johnstone
Ed Horowitz (Viacom International, Inc.), representing Frank Biondi
Joel Chaseman (Chaseman Enterprises International)
James Chiddix (American Television and Communications Corp.), representing Joseph Collins
Bruce L. Christensen (Public Broadcasting Service)
William Connolly (Sony Corporation of America)
Martin S. Davis (Paramount Communications, Inc.)
Barry Diller (Fox, Inc.)
James C. Dowdle (Tribune Broadcasting Company)
Bruce Sidran (Microelectronics and Computer Technology Corp.), representing Craig Fields
Edward Grelow (CBS Inc.), representing Lawrence Tisch
Stanley Hubbard (Hubbard Broadcasting)
James C. Kennedy (Cox Enterprises, Inc.)
James C. McKinney (ATSC)
Jerry K. Pearlman (Zenith Corporation)
F. Jack Pluckhan (Quasar)
Ward Quaak (The Ward Quaak Company)
Richard Roberts (TeleCable Corporation)
Michael Sherlock (NBC) representing Robert Wright
David Westin (Capital Cities/ABC Inc.) representing Thomas Murphy

3. The following Ex Officio Committee members were present:

George Vradenburg III, Co-Chair, Implementation Subcommittee
Warren Richards (Department of State), representing Bradley P. Holmes
Charla M. Rath (NTIA/Department of Commerce), representing Thomas Sugrue
John Abel (NAB)

No. of Copies rec'd
List A B C D E

2 Copies

Wendell Bailey (NCTA)
Henry Baumann (NAB)
Tyrone Brown (Steptoe and Johnson)
Brenda Fox (representing NCTA)
Margita White (MSTV)
Joseph Donahue (Thomson Consumer Electronics, Inc.)
Robert Graves (American Telephone & Telegraph)
Keiichi Kubota (NHK)
Jae S. Lim (Massachusetts Institute of Technology)
Donald Rumsfeld (General Instrument Corporation)

4. The following Commission employees were present in an official capacity:

Alfred Sikes, Chairman
Thomas Stanley, Chief Engineer
Roy J. Stewart, Chief, Mass Media Bureau

5. Chairman Wiley welcomed several new members to the Committee and announced that several representatives of proponent companies have been appointed as ex officio members to the Advisory Committee.

6. Chairman Sikes addressed the members. He estimated that HDTV receivers and programming first would become available to consumers sometime between July 1995, and June 1996, and pledged that the Commission would match the pace for selecting and implementing ATV set by the Advisory Committee. He spoke briefly about the simulcasting and transition issues which must be considered, and acknowledged the contribution made by the Advisory Committee.

7. Chairman Wiley described the key points discussed in the Fifth Interim Report (Fifth Report). First, he noted that the Advisory Committee's Report to the Commission recommending an ATV system, originally scheduled to be submitted in September 1992, has been delayed slightly and now should be completed and submitted in February 1993. Chairman Wiley added that after the report recommending a system is submitted, field tests will be conducted on the winning system and possibly on the runner-up system, to validate the laboratory tests of the systems. These over-the-air and cable tests, to be conducted by the Public Broadcast Service (with help from other organizations) in Charlotte, North Carolina, will take several months. A report reflecting the results of the field tests should be completed in June 1993. At that point, Chairman Wiley stated, the Advisory Committee should disband.

8. Chairman Wiley next raised the issue of how the Advisory Committee will ultimately select a system to recommend to the Commission. He noted that Systems Subcommittee Working Party 4, System Standard, is assigned the task of providing the working basis for the Advisory Committee to select a winning system. However, Chairman Wiley added that it is imperative that the Advisory Committee receive impartial technical advice. In light of Chairman Sikes's decision not to afford system proponents a vote in the recommendation of a

system, Chairman Wiley said that proponents also will not participate in any recommendation made within the Advisory Committee. Thus, Chairman Wiley elaborated, the Fifth Report suggests establishment of a Special Panel, which would be a microcosm of the Advisory Committee, consisting of the leadership of the various Advisory Committee Working Parties and Subcommittees, as well as members drawn at large to encompass a broad range of the Advisory Committee staff membership. (Attached to these minutes is a list of the members suggested for the special panel as well as proposed members for the Field Test Technical Oversight Committee.) Chairman Wiley indicated that members of the Special Panel were suggested with the aim of eliminating those with a possible conflict of interest, and to limit any organization or institution to a single representative on the special panel. He said that each of the proponents has been asked to assign a representative as an ex officio member of the Special Panel. Other ex officio members of the Special Panel will include representatives of the testing laboratories, a liaison from the Canadian Government, a representative from the Field Test Technical Oversight Committee, representatives of the U.S. Government, as well as Chairman Wiley.

9. The purpose of this Special Panel, explained Chairman Wiley, would be to provide a concentrated review of the test results and a comparison of the various systems, with the results to be reflected either in an options paper or a recommendation to the Advisory Committee which, will then ultimately recommend a system to the Commission. Chairman Wiley noted that the special panel membership would be proposed in the Fifth Report and he detailed its meeting schedule. He said that the Special Panel would hold an open meeting in early January 1993, and the Advisory Committee would then meet later in January or in early February 1993. Soon after its meeting, the Advisory Committee would submit its system recommendation to the Commission. Chairman Wiley stressed that, because of the importance of that Advisory Committee meeting, only the principal Advisory Committee members, not substitutes or ex officio members, would be allowed a vote on the recommended system. He said that the Advisory Committee meeting would probably run a full day and would involve reviewing the work of the Special Panel and of all of the Subcommittees and Working Parties.

10. Chairman Wiley reported that the Advisory Committee has fulfilled its pledge to the Commission to complete a review of the state of technology (alternatives to the proponent systems that are sufficiently developed to warrant testing and consideration). These findings are included in the Fifth Report, and briefly reflect that while such new alternative concepts do exist, none is sufficiently concrete to undergo testing concurrently with the recognized proponent systems. Thus, Chairman Wiley concluded, the Advisory Committee finds that the five proponent systems represent the state of available technology in advanced television.

11. The minutes of the sixth meeting were adopted without amendment.

12. Chairman Flaherty of the Planning Subcommittee reviewed the group's activities covering February 1991, through February 1992. He said that Working

Parties 1 (ATS Technology Attributes and Assessment) and 2 (ATS Testing and Evaluation Specifications) completed their assignments and the members are now on standby for other possible assignments. Working Party 3 (ATS Spectrum Utilization and Alternatives) has developed a set of principles that will be used to develop the factors for calculating the expected performance of each of the proponent systems. This effort is intended to generate a typical table of ATV channel allotments and a table that matches specific ATV channel assignments to the existing NTSC stations. Chairman Flaherty indicated that those planning factors that are system independent have been completed, but those factors which are dependent on the unique characteristics of the various proposed systems can only be developed when system testing has been completed and the resulting data reported and processed.

13. Chairman Flaherty stated that Working Party 3 also has completed a study of the means to provide each ATV transmitter with the necessary broadcast auxiliary spectrum. The results of the study show that in major markets, the spectrum designated for broadcast auxiliary service use is extremely congested and could jeopardize the timely introduction of ATV service. Chairman Flaherty noted that Working Party's 3 work leading to this conclusion, as well as possible solutions to this problem, are contained in a report "Broadcast Support Spectrum." This report is Appendix C to the Fifth Interim Report of Working Party 3.

14. Chairman Flaherty reported that Working Party 4 (Alternative Media Technology and BC Interface) was assigned to investigate interoperability, extensibility, and scalability with regard to advanced video systems. Working Party 4 has started this project by defining terms, and by identifying possible paths of technical evolution for high definition systems. Chairman Flaherty declared that the inclusion of headers and descriptors as part of the digital data stream, to fully identify the image, is a fundamental requirement for achieving interoperability, extensibility, and scalability. He noted that the Society of Motion Picture and Television Engineers currently is developing a recommendation for headers and descriptors. Chairman Flaherty said that Working Party 5, (Economic Factors and Market Penetration) continued to work in concert with Systems Subcommittee Working Party 3 (Economic Assessment). The two groups are reexamining, in light of newly revised assumptions, the implication of transition scenarios (which they developed earlier) on local broadcasters. Working Party 5 also reviewed the impact of ATV policies on industrial and international trade. A paper reflecting the results of this study has been submitted to the Chair of the Advisory Committee. That paper is Appendix E to the Fifth Interim Report of Working Party 5.

15. Chairman Flaherty concluded his report by stating that the Planning Subcommittee completed its task of reviewing whether there is available technology which might be considered concurrently with the proponent systems. He reiterated Chairman Wiley's remarks that, although such technology exists, none is developed sufficiently to undergo testing in the established timeframe.

16. Chairman Dorros of the Systems Subcommittee reported that Working Party 1 (ATS Systems Analysis) is heading toward the close of its activity, having certified for testing five of the six proponent systems. Working Party 2 (System Evaluation and Testing) has been active in keeping the testing program compatible with the Advisory Committee's goals. He stated that testing has been completed on three of the six systems, and a fourth is currently completing testing. Chairman Dorros noted that Working Party 2 has managed the task of overseeing the testing program, with little delay, despite the many obstacles which surfaced. He said that during the next working period, Working Party 2 will continue the effort to refine the field test procedures, and also will work with the Field Test Technical Oversight Committee.

17. Chairman Dorros stated that Systems Subcommittee Working Party 3 continues to strive to perfect the cost models for various expected receiver penetration levels. He said that much work in this area remains to be done, as it is difficult to accurately estimate cost until the configuration of the systems is available. This information from system proponents should be forthcoming and the cost estimates included in the final recommendation. Systems Subcommittee Working Party 4, which is drafting the bulk of the Advisory Committee's Final Report, should be the center of activity in coming months, according to Chairman Dorros. He indicated that Working Party 4 has developed a process for selecting a system and specified ten criteria to consider in this process, and will continue to work to provide the Special Panel with a basis on which to recommend a system to the Advisory Committee. Regarding the Advisory Committee's Final Report, Chairman Dorros said that the first eight chapters, which will include a list of the systems, the test results and an analysis of those results, and the selection criteria, will be written before the Special Panel meets in January 1993, to recommend a system.

18. Chairman Vradenburg described four recommendations which the Implementation Subcommittee has made, assuming the Commission adopts as planned a two year/three year ATV application and construction period. First, the Implementation Subcommittee suggests adoption of an ATV allotment and assignment scheme contemporaneously with the selection of the ATV transmission standard. In this regard, the group calls for the development of definitive allotment/assignment principles as promptly as possible, even before final allotments and assignments are ready to be made. Second, the Implementation Subcommittee recommends certain refinements in the two year/three year implementation program proposed by the Commission, specifically that the Commission phase or stagger its processing of ATV applications by market-size to allow more flexibility in money and personnel for implementing ATV. Third, the Implementation Subcommittee recommends that the Commission confirm that the definition of "construction," for purposes of the construction deadline, means the capability of emitting a signal embodying the ATV transmission standard. Fourth, the Implementation Subcommittee recommends that the Commission concentrate on the need for timely release and dissemination of comprehensive proponent system information. Finally, Chairman Vradenburg noted that a

discussion of the simulcasting issue would be included in the Final Report of the Implementation Subcommittee.

19. Chairman Wiley introduced the representatives of the three testing laboratories: the Advanced Television Test Center (ATTC), Cable Laboratories (CableLabs), and the Advanced Television Evaluation Laboratory (ATEL) which is a consortium of Canadian Government and private interests.

20. Peter Fannon, Executive Director of the ATTC, related that system testing began in July 1991, and reiterated Chairman Dorros's report that three systems have completed testing and a fourth system is currently undergoing testing. He said that despite some hindrances along the way, testing has remained as close as possible to schedule. Mr. Fannon praised the procedures set up by the Advisory Committee to administer challenges to the procedures, and stated that any decisions made to change test procedures, and any future impact of those changes with regard to future systems, have been noted. These challenges will be reflected in the full record of the Advisory Committee's work, and are summarized in the Fifth Interim Report of SS/WP2. Mr. Fannon spoke briefly about the test process.

21. Craig Tanner, Chair of CableLabs, noted that CableLabs works in concert with ATTC in conducting the tests. He described the cable testing process and said that three systems have undergone cable testing and that reports on those systems are either in progress or completed. Mr. Tanner said that Cablelabs, like ATTC, has faced certain challenges, dealt with them, and should be able to continue on schedule.

22. Chairman Wiley introduced Paul Hearty of ATEL, who reported that two systems have completed testing in Canada and a third system is progressing in the tests. Mr. Hearty said that testing on a fourth system should begin in April 1992, and that testing of all six proponent systems should be concluded by October or November 1992.

23. Chairman Wiley reviewed the amendments made to the Fifth Report since the Advisory Committee members' edits were incorporated. (Chairman Wiley had sent the Advisory Committee members advance copies of the Fifth Report to assess and comment.) The amended Fifth Report was adopted with no change.

24. Special Panel Chair Robert Hopkins reviewed the Actual/Projected Test and Report Schedule (attached to these minutes). This schedule is broken into three blocks or segments, the ATTC/CableLabs Test and Report Schedule, the ATEL Test and Report Schedule, and the Data Analysis Schedule. Chairman Wiley noted that the system marked ADTV on the schedule should read AD-HDTV. It was suggested that the years be added to the dates included in the schedule.

25. Mr. Dowdle reported on the efforts of the over-the-air broadcasters to raise \$1.6 million dollars on behalf of ATTC. He stated that the group now has \$1.2 million dollars and is optimistic on reaching its goal.

26. Mr. Baumann, Treasurer of the Advisory Committee, presented the financial report. He reported that as of July 1, 1991, the Committee had \$54,512.95, and accrued \$1,399.71 interest. Between July 1991 and the present, Mr. Baumann said that the Committee has dispersed \$9,005.72, leaving a current balance of \$46,906.94. He predicted, based on expenditures thus far, that the funds would last through the conclusion of the work of the Advisory Committee.

27. The meeting adjourned at 3:45 p.m.

Submitted:

William Shaver
for Roy J. Stewart

Bruce A. Lauer
for Thomas P. Stanley

Approved:

Richard E. Wiley
Richard E. Wiley

ATV Advisory Committee

MEETING: -- March 24, 1992

ATTENDEES

Name	Representing	Phone Number
KEITH A. HARRISON	FCC	202 632 7792
PATRICK GOSHMAN	TRANSMEDIA PARTNERS	202 223 0970
Robert Hopkins	ATSC	202-828-3130
MARSHAL FRIEDMAN	FCC WEEK	703-683-4100
BRIAN JAMES	CABLELABS	703-739-3870
LYNN CLAYTON	NAB	202-429-5340
TELLER	PHILIPS	202 962 8550
JACK STANLEY	IBEW	202-728-6024
BRIAN ROBINSON	ELECTRONIC ENG. TIMES	202-3834790
Robert Harrison	SELF	212-722-2821
George Hanover	EIA	202 457 4979
MIKE FEAREZ	COMM. DAILY	872-9200
Kent Gibbons	WEEK TIMES	202-636-4838
Charles W. Rhoda	ATTC	703 739 3850
Robert Niles	CAPITAL CITIES/PSC	215-878-9722
SAM ANTAR	CAPITAL CITIES/ABC	212-456-6222
LORETTA POLK	TV TECHNOLOGY	703-998-7600
JIM GASPAR	NCTA	202-775-3664
ANN HAGEMANN	PANASONIC ATVL	(609) 386-8527
LARRY THORPE	HDTV INT'L.	(703) 548-1423
JIM CARNES	SONY	(201) 358-4267
H. SINGH	SARNOFF LABS	(609) 734-3121
SHARON SENGNER	ECC	(202) 862 9520
JAMES LEE	PBS	(703) 439-5199
	Federal Filings	(202) 343-7400

ATV Advisory Committee

MEETING: -- March 24, 1992

ATTENDEES

Name	Representing	Phone Number
Jayne Roads	Hughes Aircraft Co.	703-284-4212
Edwina Setzer	FCC - OPP	(202) 653-5940
Alan Carlson	Reuter	202 898-8300
Wayne Myslik	Sidley + Austin	202 - 936-8265
B. Aversca	Multichannel News	202-682-3228
Director - T. Smith	HSTV	202 - 462-4351
Greg Schmidt	Covington & Burling	202-662-5160
Chris Moran	Cablevision	(202) 682-3222
DON WALKER	MOTOROLA, INC	(202) 371-6941
Gregory DePriet	Toshiba America Consumer Products	609-951-8500
WERNER F. WEDAM	SAMSUNG ELECTRONICS	609-896-3738
Howard Woolley	Nat'l Assoc. of Broadcasters	202-429-5344

Annex V of Appendix D

Advisory Committee on Advanced Television Service

Special Panel Participants

Advisory Committee Leaders

1. Robert Hopkins (<u>Chair</u>)	SS/WP-4	ATSC
2. Joseph Flaherty	PS	CBS
3. Irwin Dorros	SS	Bellcore
4. George Vradenburg III	IS	Fox
5. Renville McMann	PS/WP-1	Consultant
6. Dale Hatfield	PS/WP-3	Consultant
7. Edward Horowitz	PS/WP-4	Viacom
8. Rupert Stow	PS/WP-5	Consultant
9. Craig Tanner	PS/WP-6	CableLabs
10. Richard Ducey	PS/WP-7	NAB
11. Birney Dayton	SS/WP-1	N-Vision
12. Mark Richer	SS/WP-2	PBS
13. Larry Thorpe	SS/WP-3	Sony America
14. Charles Jackson	IS/WP-1	National Economic Research Associates

Advisory Committee Members At Large

15. Wendell Bailey	Vice Chair, PS	NCTA
16. John Barry	Vice Chair, PS/AG-2	IBEW
17. Alex Felker (<u>Vice Chair</u>)	Former Chief, FCC Mass Media Bureau	Time Warner
18. James Gaspar	PS/WP-6, SS/WP-4	Panasonic
19. Branko Gerovac	PS/WP-4	DEC
20. George Hanover	Vice Chair, SS/WP-2	EIA
21. Bronwen Jones	Vice Chair, PS/WP-6	Consultant
22. Robert Niles	Vice Chair, PS/WP-1	Capital Cities/ABC
23. Robert Sanderson	Vice Chair, PS/WP-4	Eastman Kodak
24. Richard Stumpf	PS/AG-1	Universal City Studios
25. Victor Tawil	PS/WP-3, SS/WP-4	MSTV

Ex-Officio Participants

- FCC Staff; Other U.S. Government Representatives
- HDTV System Proponent Representatives (one per testing slot)
- Test Center Representatives
- Field Test Technical Oversight Committee Representative
- Canadian Liaison
- Richard Wiley, Chairman, Advisory Committee

Appendix E

FIELD TEST TECHNICAL OVERSIGHT COMMITTEE

Chairman:	1.	Richard Wiley	Wiley, Rein & Fielding
Vice-Chair:	2.	Joel Chaseman	Chaseman Enterprises
Members:	3.	Wendell Bailey	NCTA
	4.	Alex Best	Cox Cable
	5.	Jules Cohen	Consultant
	6.	Birney Dayton	N-Vision
	7.	Irwin Dorros	Bellcore
	8.	Alex Felker	Time Warner
	9.	Joseph Flaherty	CBS
	10.	George Hanover	EIA
	11.	James McKinney	ATSC
	12.	Renville McMann	Consultant
	13.	Howard Miller	PBS
	14.	Robert Niles	Capital Cities/ABC
	15.	Michael Rau	NAB
	16.	Henry Rivera	Ginsburg Feldman
	17.	Andrew Setos	Fox
	18.	Peter Smith	NBC
	19.	Craig Tanner	CableLabs
	20.	Bud Williamson	MSTV

Ex-Officio:

- FCC Representatives
- Proponent(s) representative(s)
- Mark Richer (PBS; Executive Management for ATV Field Testing)
- Ed Williams, Manager, ATV Field Test Project

FCC Advisory Committee on Advanced Television Service Actual / Projected Test and Report Schedule

	ATTC / CableLabs Test and Report Schedule					ATEL Test and Report Schedule			Data Analysis Schedule		
	Start ATTC Test	End ATTC Test	Start CableLabs Test	End CableLabs Test	Draft Report to Proponent	Start ATEL Test	End ATEL Test	Draft Report to Proponent	Test Reports Released	System Report Complete	SS/WP4 Adopts Report
ACTV	Jul 12	Sep 15	Aug 16	Aug 22	Jan 29	Sep 3	Feb 10	Feb 13	T.B.D.	N/A	N/A
N-MUSE	Sep 20	Nov 18	Oct 16	Oct 22	Apr 3	Nov 4	Feb 3	Feb 28	Apr 17	May 15	May 29
DigiCipher	Dec 10	Feb 28	Jan 27	Jan 31	May 8	Feb 17	Mar 31	Apr 14	May 22	Jun 19	Jul 6
DSC-HDTV	Mar 9	May 8	Apr 20	Apr 24	Jul 6	Apr 15	Jun 5	Jun 19	Jul 20	Aug 17	Aug 31
ADTV	May 19	Jul 15	Jun 22	Jun 26	Sep 9	Jun 15	Aug 3	Aug 17	Sep 23	Oct 21	Nov 4
ATVA-P	Jul 24	Sep 18	Aug 17	Aug 21	Oct 16	Aug 20	Oct 8	Oct 23	Nov 6	Dec 4	Dec 18
ATEL Summary									Nov 6	Dec 4	Dec 18

March 24, 1992

Dates before March 24, 1992 are actual dates; dates after March 24, 1992 are projected dates. Testing times are estimated and do not include any contingency time for equipment failure or test procedure changes.

Start ATTC Test and End ATTC Test dates were determined after the SS/WP2 decisions on 18 Mar 92. Audio testing is included in the ATTC test slot. Start CableLabs Test and End CableLabs Test dates are assumed to be in the "middle" of the ATTC test slot for the last two systems. ATTC / CableLabs Draft Report to Proponent date is two months after End ATTC Test except for the last test slot which is one month. The audio report (by the contractor, Westinghouse) is included in the ATTC report.

Start ATEL Test and End ATEL Test and ATEL Draft Report to Proponent dates were determined after the SS/WP2 decisions on 18 Mar 92. The ATEL dates assume that the ATTC dates do not change, that one week's worth of tapes (three tests) are made by the end of the second week at ATTC, and that an uninterrupted flow of the balance of the tapes (three tests/week) follows over the next four weeks (including the CableLabs tapes).

Test Reports Released date is two weeks after the last individual draft report is given to the proponent. The proponent may have portions of the report for more than two weeks but will have the entire report for only two weeks. This date is the deadline for proponents to file their final comments on the report prior to printing.

System Report Complete allows four weeks for data to be printed and distributed to PS/WP3 and the SS/WP4 Task Force on Data Analysis, for data analysis to be performed by those groups, and for draft text to be written on the test results for inclusion in the SS/WP4 final report. The time required for printing the data is expected to be about one week. In order to maintain the schedule, it may be necessary to implement special procedures for the report on the last system.

SS/WP4 Adopts Report allows two weeks for distribution of the data analysis draft to SS/WP4 and for study of the draft by SS/WP4 members prior to the SS/WP4 meeting at which the data analysis report will be adopted.